

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

TITLE V DRAFT PERMIT NO. V-03-041, Revision 1
COOPER- STANDARD AUTOMOTIVE INC
MOUNT STERLING, KY 40353

April 2, 2004
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SOURCE DESCRIPTION:

Cooper – Standard Automotive applied to the Division for Air Quality for renewal of their Title V permit (V-03-41) and permit was issued on December 8, 2003 and will expire on December 8, 2008. On December 9, 2003 the Cooper Standard Automotive submitted a voluntary self disclosure for factual errors in the plant's air permit in which two 12.6 mmBtu/hr boilers were installed in place of the two 9.21 mmBtu/hr boilers that were included in the plant's permit for emission unit 1 and 2.

The plant produces automotive reinforced rubber hose and Multi-Layered Plastic Tubing (MLT) in various diameters, lengths, and shapes. The main raw materials involved in hose production are rubber and reinforcing yarn. Secondary raw materials include adhesive and lubricant. The raw material involved in the MLT production is plastic pellets. The processes involved in reinforced rubber hose production include the extrusion of rubber on the Knit/Spiral Hose Lines #1, #2, and #3, printer stations for the customer, adhesive application operations, rubber curing in the Autoclaves, and the hose finishing operations. Un-reinforced scrap rubber is processed on an off-line mill for reuse in production. The processes involved in the MLT production include plastic extrusion and forming. Steam generated by two boilers are used to cure the rubber reinforced hoses and for the MLT forming operations.

Hose Extrusion:

Rubber is produced at other facilities and received at the plant in layered sheets on skids. The rubber is fed into an extruder, which extrudes it in the form of a tube for the inner core of the hose. The core is cooled in a cooling bath. Then, reinforcing yarn is applied to the core in the required pattern. Following reinforcing, rubber is extruded over the reinforced core in the form of the outer hose casing.

ADHESIVE APPLICATION OPERATIONS:

In order for the outer casing to properly adhere to the hose core, many hose products require an adhesive coating to be applied to the reinforced core prior to the extrusion of the outer cover. The adhesive is applied in a tank that serves as a reservoir for the adhesive. The adhesive is pumped from the reservoir, over the hose as it passes through the tank, and back into the reservoir. A separate but adjacent vacuum system removes excess adhesive prior to extrusion of

the outer casing. For some products, the reinforcing operation is completed off-line. In this case, after the core is extruded from one of the three Lines, it is moved to an off-line reinforcing machine. After the hose is reinforced, it is returned to the adhesive application operation on one of the three lines. From there, the outer rubber casing is extruded.

RUBBER HOSE CURING:

Rubber hose from the extrusion process is cured in one of several steam autoclaves. Curing involves the vulcanization or cross-linking of the rubber compound. Prior to curing, the cut hoses are placed on steel mandrels or in aluminum tubing that are shaped to the desired product profile.

In order to facilitate the manual loading process of the hoses on the mandrels or in the tubing, the hose is dipped in a lubricant prior to loading

The mandrels or tubing are placed in an autoclave. The autoclave will typically cycle three times per hour. At the conclusion of the cycle, the cured hose is removed from the mandrels or tubing and transported to the hose wash area. The hoses are placed in baskets and run through a wash to remove lubricant.

Over a period of time, a residue will build up on the mandrels. A Paralytic Oven is used to remove the residue.

Hose Finishing:

This involves performing final cuts on the hose and assembling hoses which may include using diradia presses, metal tube benders, brazing equipment, crimping equipment, clamp glue pods, and assembly test equipment. In addition, clamps, fittings and the customer identifying marks are applied to the hose. These operations may involve the use of small quantities of glue and marking inks. A Parts Washer is used to clean the ink marking equipment. The finished hoses are then packaged and stored in a warehouse until transported to the market.

Multi-Layered Tubing (MLT)

MLT is produced at the facility by extruding plastics received in bulk pellet form. The plastic pellets are fed into an extruder, which extrudes a multi-layered tube. The MLT is cooled in a cooling bath. Then, customer-identifying codes are printed on the MLT. Next, the MLT is cut to proper length or coiled on reels for future use or shipment. The cut-to-length MLT from the extrusion process is formed in one of several steam racks.

Forming involves the steam heating of the MLT while held in a pre-determined form. This involves assembling the MLT according to the customer requirements and may include various retention clamps and apparatus installation to the MLT end or ends. Bent stainless steel is also a component of some assemblies.

The finished MLT assembly is leak tested by pressure decay prior to packing for shipment.

Miscellaneous Operations:

A number of operations support the reinforced rubber hose and MLT production at the plant. These include such operations as receiving, boiler operation, a 12,000 gallon #2 fuel oil tank used as a secondary fuel for the boilers, a 300-gallon diesel oil tank used to run the sprinkler system pumps, a plant laboratory, plant maintenance including parts washing, warehousing and shipping.

COMMENTS:

The source is taking a limit to preclude the applicability of PSD, by limiting volatile compounds to be 225 tons per year. Since the boilers are >10 mmBtu/hr, new source performance Standard (NSPS) requirement applies to boilers. Additional specific requirements that apply to this size of boilers that use natural gas and #2 fuel oil are found in 40 CFR subpart Dc.

The performance tests is required by 40 CFR 60.44c showing compliance to sulfur emission limitation. However, per 40 CFR 60.44c (h) the operator may demonstrate compliance with this requirement based on fuel supplier certification of percent of sulfur in fuel oil purchased (40 CFR 60.44c).

To comply with the NSPS performance tests required for both boilers emission unit 1 and 2 in 40CFR 60.44c, Cooper Standard Automotive elects to submit fuel supplier certification. Please note that this certification is for the most recent fuel oil delivered to the facility.

APPLICABLE REGULATIONS:

401 KAR 59:010: New Process operations
401 KAR 59:015: New Indirect Heat exchangers
401 KAR 63:010: Fugitive Emissions
401 KAR 63:021: Existing Sources emitting toxic air pollutants
401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units, for units less than or equal to 100 mmBtu/hr but greater than or equal to 10 mmBtu/hr commenced after June 9, 1989.

REGULATIONS THAT ARE NOT APPLICABLE:

There is not yet an applicable MACT/NESHAPs standard for this type of manufacturing plant. Note also that this source does NOT manufacture the rubber from raw materials. The rubber is shipped to the site and extruded at the site but is not manufactured from raw materials at this site. Therefore, the Polymers and Resins Production MACT standard(s) do not apply.

EMISSION AND OPERATING CAPS DESCRIPTIONS:

The annual emissions cap for volatile organic compounds shall not exceed 225 tons per year. The carbon disulfide source-wide allowable shall not exceed 56.0 pounds per hour and the trimethylbenzene allowable shall not exceed 3.78 pounds per hour.

PERIODIC MONITORING:

None

OPERATIONAL FLEXIBILITY:

None

CREDIBLE EVIDENCE:

This permit contains provisions that require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.